



A News Update from
the Gerry E. Studds Stellwagen
Bank National Marine Sanctuary



Spring
2004

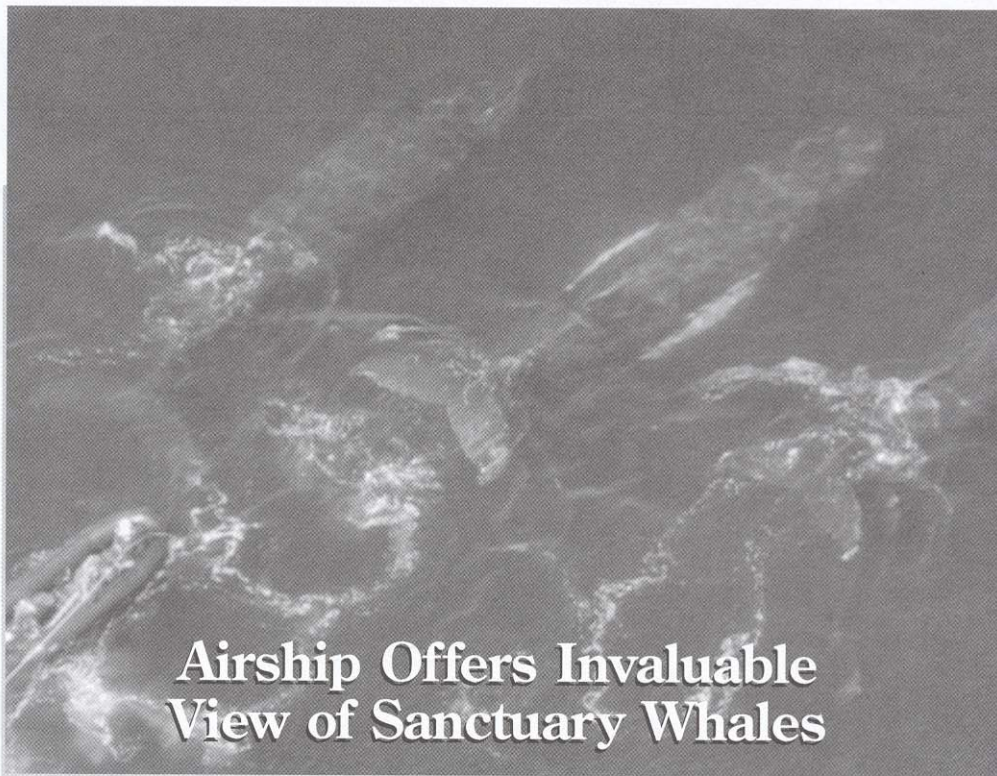
STELLWAGEN BANKNOTES

Welcome

Welcome to the Spring 2004 issue of Stellwagen Banknotes, an update from the Stellwagen Bank National Marine Sanctuary to inform the public about upcoming events, research progress, and program highlights. We hope you find this publication valuable and informative. If you would like additional copies of the update or our annual newspaper (Stellwagen Soundings), or know of any individuals who would like to be placed on our mailing list, please let us know by contacting us via: phone: 781-545-8026; fax: 781-545-8036; or e-mail: stellwagen@noaa.gov or anne.smraina@noaa.gov. Your comments or suggestions regarding the contents of this publication are also of interest to us.

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Airship Offers Invaluable View of Sanctuary Whales

Observations from an airship helped rescuers track and save a whale entangled in fishing gear. Photo credit: WHOI

A few months ago, scientists had an unusual perspective in their study of the sanctuary's whales as they used an unusual flying machine to get a bird's eye view. The Fuji airship (or blimp), more often seen at sporting events, became a research platform from which cameras were trained on something completely different.

From this stable "box seat" in the sky, the scientists observed bubble net feeding by single humpback whales and groups. They were able to watch as large cargo vessels, whalewatch and fishing vessels, and pleasure craft approached whales and how the whales responded to the noise. "What was nice was that we could study ship-whale interactions without becoming part of the data set ourselves," said David Wiley, the sanctuary's research coordinator and chief scientist for the project. The aerial observers were also looking at how whales

responded to fixed fishing gear in their feeding grounds.

At one point in the mission, the researchers became active participants in a whale rescue, relaying important data to the Center for Coastal Studies disentanglement team. From the hovering vantage point, scientists followed the subsurface movements of the gillnet-trailing humpback whale named "Trident." The airship spotters guided the rescuers to the surfacing whale where they were able to remove much of the gear.

The sanctuary is hopeful that additional airship time will become available this summer to aid in these important marine mammal research projects.

Little is known about how entanglements

continued on page 3

Management Plan Review Approaching Next Phase

A busy conference room schedule provides a visual indicator that the Congressionally-mandated effort to revise the sanctuary's management plan is quickly approaching the next phase in the process. Twelve working groups, organized in the fall and having begun their work in the winter, now strive to complete sets of draft Action Plans for submission to the Sanctuary Advisory Council.

The working groups are addressing issues raised by the public during the initial phase of the multi-stage review process. Issue categories covered by these groups are: 1. administrative capacity, infrastructure development and maintenance; 2. compatibility determination; 3. ecosystem alteration; 4. ecosystem-based management; 5. behavioral disturbance of marine mammals; 6. inter-agency cooperation; 7. marine mammal entanglement; 8. marine mammal ship strikes; 9. maritime archaeology; 10. public outreach and education; 11. site characterization; 12. water quality.

Dates for the working group meetings are posted on the sanctuary's home page at <http://stellwagen.noaa.gov>. From that page, readers can access meeting agendas and summaries for each of the groups as well as other management plan review documentation. The action plans being submitted to the Advisory Council will also appear on the website for public inspection.

Once the Council completes its review of the plans, the documents will be forwarded on to the sanctuary superintendent and National Marine Sanctuary Program headquarters for review and evaluation. A draft management plan is expected to be developed over the winter and available for public comment in the spring of 2005. For those individuals without internet access, hard copies of the materials may be obtained by calling the SBNMS office at 781-545-8026.

Ocean Policy Report Released

The U.S. Commission on Ocean Policy released its Preliminary Report on Ocean Policy — Governors' Draft on April 20, 2004. The report presents the Commission's preliminary findings and recommendations for a new, coordinated, and comprehensive national ocean policy. The document has been made available for review and comment by the nation's Governors and interested stakeholders, as mandated by the Oceans Act of 2000. Comments were due by May 21. A final report is expected to be released in the summer. To access the preliminary report on the web, go to the commission's site at: <http://oceancommission.gov/documents/welcome.html>



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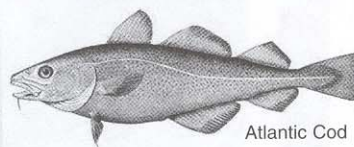
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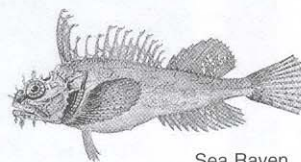
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Atlantic Cod



Sea Raven

See page 5 for Fish ID story.

Getting Involved

Volunteers

The Gerry E. Studds Stellwagen Bank National Marine Sanctuary welcomes your interest in our programs. At this time, we're accepting letters of inquiry from individuals interested in volunteering in our education, research and administrative programs. If you are willing to help us organize this effort or to volunteer your free time, please let us know by contacting our education coordinator, Anne Smrcina (anne.smrcina@noaa.gov), or by calling the sanctuary office at 1-781-545-8026.

Donations

Tax deductible monetary donations can be made to the Stellwagen Bank National Marine Sanctuary's education fund at the National Marine Sanctuary Foundation, a non-profit organization dedicated to supporting the efforts of the 13 sanctuaries around the nation. Donations made out to the Foundation (SBNMS Fund) can be sent to the sanctuary office in Scituate.

FREE

I wish to receive the following publications:



Stellwagen
Banknotes



Stellwagen
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E-mail Notices

If you are interested in a FREE Stellwagen Banknotes or Sanctuary Soundings newsletter subscription or other Sanctuary publications, please provide the following information and send to: **SBNMS, 175 Edward Foster Road, Scituate, MA 02066** or fax to: **1-781-545-8036**

Name _____

Address _____

City, State, Zip _____

e-mail address _____

(for future electronic notices)

Phone _____

Sanctuary Appointing New Advisory Council

After a month-long open nomination period, the Stellwagen Bank National Marine Sanctuary is now in the process of appointing a new Advisory Council. The 15 voting seats on the council (along with alternates for each seat) consist of: Research (2), Education (2), Conservation (2), Marine Transportation (1), Recreation (1), Whale Watching (1), Mobile Gear Commercial Fishing (1), Fixed Gear Commercial Fishing (1), Business/Industry (1), and At-Large (3). There are six non-voting, ex-officio seats, which include: National Marine Fisheries Service, U.S. Coast Guard, New England Fisheries Management Council, Massachusetts Coastal Zone Management, Massachusetts Division of Marine Fisheries, and Massachusetts Environmental Police. Members of the previous council (and alternates) were eligible to reapply for their positions. The listing will be posted to the sanctuary's web site (<http://stellwagen.noaa.gov>) as soon as all members accept their appointments.

Members and alternates will be serving two or three-year terms, depending on the seat. The appointees will be selected based upon their expertise and experience in relation to the seat for which they are applying. Considerations include community and professional affiliations, philosophy regarding the conservation and management of marine resources, and the length of residence in the region or length of use of the sanctuary.

The Stellwagen Bank National Marine Sanctuary Advisory Council was established in March 2001 to assure continued public participation in the management of the Sanctuary. Serving in a volunteer capacity, the Council's 15 voting members (and alternates) represent a variety of local user groups, as well as the general public. The non-voting seats consist of six local, state and federal government jurisdictions. Since its establishment, the Council has played a vital role in advising the sanctuary and NOAA on critical issues and is currently focused on the sanctuary's development of a new 5-year management plan.

New Exhibit Opens at Scituate Maritime Museum

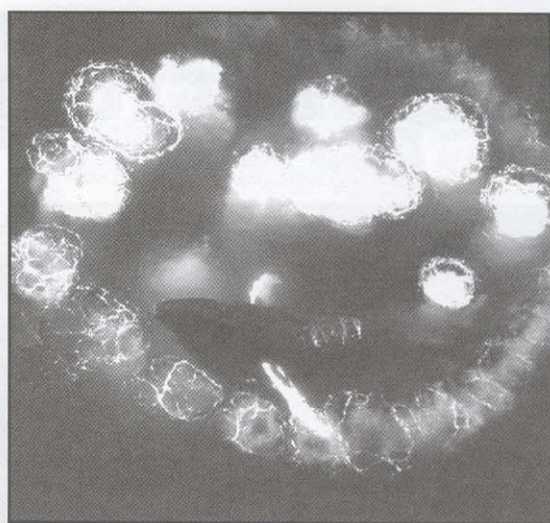
"Technology Triumphs: The Discovery of the Steamer Portland", a new exhibit at the Scituate Maritime and Irish Mossing Museum opened on February 1st. The exhibit is a joint project of the sanctuary and the museum, which is administered by the Scituate Historical Society. The exhibit complements previously developed displays that focus on the Portland Gale of 1898 and the ill-fated vessel, including a detailed ship model and Portland artifacts that washed up on Massachusetts beaches after the storm. The new exhibit features side scan images produced at the wreck site, video images from the 2002 research cruise, and historic images of the ship, her captain and Boston at the turn of the century. The Scituate Maritime and Irish Mossing Museum, located at 301 Driftway, is open every Sunday from 1 to 4 pm. The Museum is handicapped accessible. There is a small admission charge for adults; children under 18 are free. To learn more please visit <http://www.scituatehistoricalsociety.org> or call the Scituate Historical Society at 781-545-1083.

Building Renovations Near Completion

The long process of refitting the buildings of a former Coast Guard Station into the headquarters of the Stellwagen Bank National Marine Sanctuary is nearing completion. A geothermal heating and cooling system has been in operation since the late fall. The sanctuary building is only the second NOAA facility in the nation to use this innovative climate control process. Building renovations include remodeling of all office and common spaces, modification of the kitchen, and refitting the dining hall into a conference room. Final work on the ramp for wheelchair access is awaiting landscaping work in the front lawn area. The former garage behind the main building is now a fully functional meeting annex.

New 2003 Whales Get Their Names

On March 27th, cetacean researchers and naturalists met at the sanctuary offices to assign names to the 70 newly cataloged Gulf of Maine humpback whales. The Center for Coastal Studies, Whale Center of New England and sanctuary were co-sponsors of the workshop. Check the sanctuary website for the new names and fluke photos.



*The Fuji airship was able to capture remarkable images of whale behavior, including this bubble net.
Photo credit: WHOI*

Continued from page 1

occur or how whales react to the approach of large ships. During the Stellwagen Bank National Marine Sanctuary's recent comment period for the revision of the sanctuary's management plan, ships strikes and fishing gear entanglements were shown to be priority issues for the public. Large amounts of fixed fishing gear can be found in and around the sanctuary, while the shipping lanes to Boston pass right over Stellwagen Bank. In the summer and early fall high levels of boat traffic can be found throughout the sanctuary.

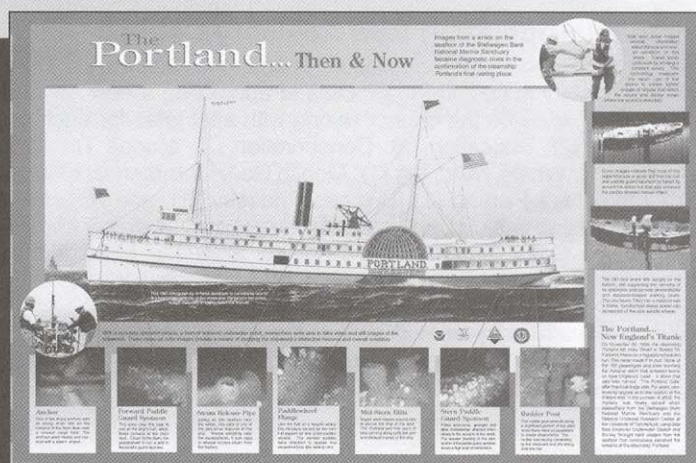
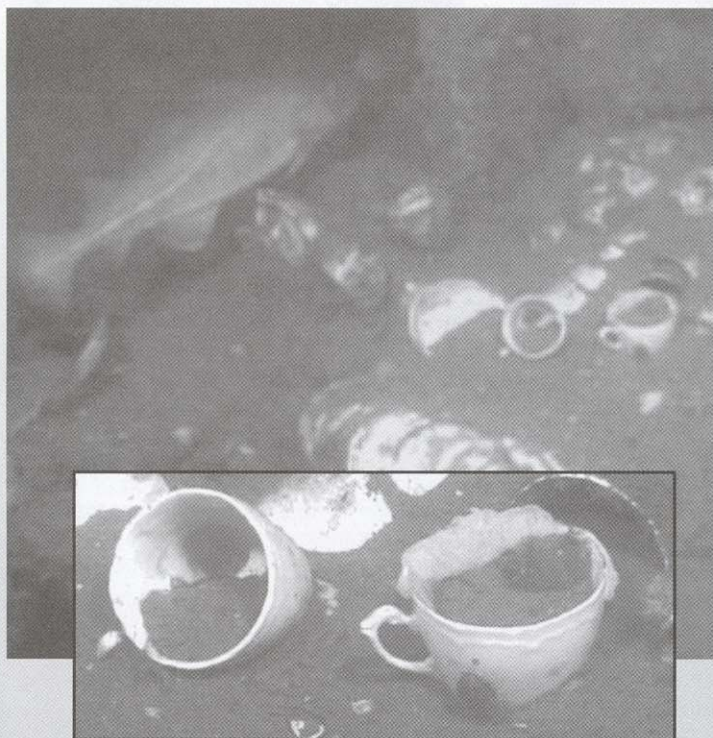
This partnership between government, research, conservation organizations and industry was made possible when Fuji Photo Film U.S.A., Inc. donated seven days of airship time in August 2003 to the Woods Hole Oceanographic Institution (WHOI). The institution, in turn, invited the sanctuary to help develop the mission plan. Other partners included NOAA's National Marine Fisheries Service and the International Fund for Animal Welfare.

Using high definition imaging systems from WHOI, the researchers collected a wide range of data to advance studies in whale behavior and biology, such as growth, body shape and condition in right and humpback whales.

"The sanctuary encourages and appreciates Fujifilm's generosity in the donation of airship flights towards our critical mission of protecting the endangered marine mammals within the sanctuary. The public-private partnership demonstrated in this project is noteworthy and greatly appreciated," said Craig MacDonald, sanctuary superintendent.

The overflights were allowed under research permits issued by NOAA's Fisheries Service, which is the regulatory agency for the enforcement of the Marine Mammal Protection Act and the Endangered Species Act (for marine mammals). In addition to chief scientist Dave Wiley of the sanctuary, other principle investigators included Bill Lange, research specialist at the Advanced Imaging and Visualization Laboratory, WHOI, and Pat Gerrior, coordinator of the right whale alert program at the National Marine Fisheries Service.

Maritime Archaeology



Portland Posters Available

A free copy of the sanctuary's new poster can be picked up from one of the following distribution centers: Gloucester Maritime Heritage Center on Harbor Loop, New England Aquarium Teacher Resource Center in Boston, Scituate Maritime and Irish Mossing Museum on The Driftway, Sanctuary Headquarters in Scituate, Woods Hole Aquarium on Water Street, and SBNMS Exhibit at Aquarium Wharf in Provincetown.

Maritime Resources Update

The 2003 Maritime Heritage Resources field season brought back stunning imagery from the shipwrecks that lie on the sanctuary's seafloor. Sanctuary personnel, in cooperation with the National Undersea Research Center (NURC) at the University of Connecticut, NOAA's Office of Ocean Exploration, the Discovery Channel Networks, the University of Maine and the Woods Hole Oceanographic Institution's Advanced Imaging and Visualization Laboratory, conducted five days of advanced marine remote sensing operations off the Research Vessel (R/V) *Connecticut*. Using a remotely operated vehicle (ROV) nicknamed *Hela*, the expedition successfully explored five shipwrecks — the steamship *Portland*, the coal schooners *Frank A. Palmer* and *Louise B. Crary*, an unidentified nineteenth century collier, and an unidentified twentieth century eastern rigged dragger. *Hela* carried a high definition video camera, capturing the best imagery to date of the sanctuary's shipwrecks. Topside, a camera crew shot video of the expedition that was combined with the underwater footage to create a documentary on the technology used to investigate the *Portland*. The show, "Robots of The Deep: The Wreck of The *Portland*," debuted on March 5, 2004 on the Science Channel, and has been re-broadcast several times since then.

The National Marine Sanctuary Act requires the sanctuary to inventory, assess, protect, and interpret its maritime heritage resources in order to fulfill its mission of conserving, protecting, and enhancing the biodiversity, ecological integrity, and cultural legacy of the sanctuary while facilitating compatible use. The sanctuary's location at the mouth of Massachusetts Bay makes it an ideal location for shipwrecks. Ships going to and from Massachusetts's main ports from the seventeenth century to the present passed through what is now the sanctuary.

Since 2002, when the sanctuary began investigating its maritime heritage resources, archaeologists have located twelve shipwrecks. Archaeologists are currently documenting and assessing these wrecks to determine each vessel's identity and history. Suitable sites will be nominated to the National Register of Historic Places.

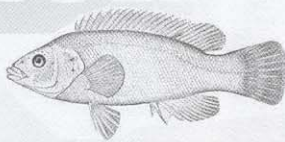
In order to conserve the integrity and archaeological potential of its historical and cultural resources, the sanctuary prohibits the following activities (which pertain directly to maritime heritage sites). Users of the sanctuary, especially divers, need to be aware of these prohibitions when visiting the sanctuary.

- Moving, removing, or injuring, or attempting to move, remove, or injure, a sanctuary historic resource. This prohibition does not apply to moving, removing or injury resulting incidentally from traditional fishing operations.
- Possessing within the sanctuary (regardless of where taken, moved, or removed from), any historic resource.

As part of the sanctuary's management plan review, a maritime archaeology working group is completing a plan for the inventory, assessment, protection, and management of the sanctuary's maritime heritage resources. Representatives of the sanctuary's user groups, such as commercial and recreational fishermen, divers, researchers, and educators are developing a management plan for heritage resources that balances their interests. It is the working group's goal to allow appropriate access to the extent practicable on maritime heritage sites. The plan drafted by the group will be submitted to the Sanctuary Advisory Council this summer for their review. For more information about the maritime archaeology working group and the sanctuary's maritime heritage resource program please see the sanctuary website at: <http://stellwagen.noaa.gov/>.

Education

Celebrate The Sanctuary and The Great Annual Fish Count



Cunner

On Saturday, July 17, 2004, the Stellwagen Bank National Marine Sanctuary will again host its Sanctuary Celebration in Gloucester's Stage Fort Park. The event links with the Great Annual Fish Count (GAFC) — a program that does for divers and fish what the Christmas Bird Count does for birdwatchers and birds. The program provides a "snapshot" of fish species sightings during the month of July each year, providing insights into distribution and abundance, as well as introducing the public to the wide range of marine fish.

The Great Annual Fish Count is part of an international program developed by the Reef Environmental Education Foundation, which maintains the master database of fish sightings. To access the database, visit REEF's website at <http://www.reef.org>.

To participate in the GAFC, divers must take a REEF-approved course, which provides information about data collecting procedures and clues to fish identification. The Gulf of Maine fish ID training program was developed by the Stellwagen Bank National Marine Sanctuary based on a curriculum originated by REEF and PADI. The sanctuary offers free fish ID courses throughout the year at regional dive clubs and educational institutions. This year, an invertebrate identification mini-course is being piloted (see related story). Information about all of these programs will be available at the Gloucester Celebration or by calling the fish ID program coordinator Bob Michelson at 781-848-8870.

Along with materials that focus on sanctuary activities, resources and programs, various dive clubs, government agencies and marine conservation organizations will offer exhibits at the July 17th Sanctuary Celebration. In addition, a tally of GAFC divers and fish sightings will be maintained. In 2003, 74 divers recorded sightings of 42 different species in coastal waters off Maine, New Hampshire and Massachusetts. Numerous diving supply companies and related industries and individuals donated products and services to the National Marine Sanctuary Foundation for a diver raffle held at the event. Over \$5,000 in prizes were received and awarded. Companies are once again offering generous donations to the 2004 Celebration and Diver Raffle.

Thank You to our 2003 Donors

GRAND PRIZES for Diver Raffle

Ikelite Underwater Systems — Substrobe 125 Deluxe package including: DX-125 Strobe, deluxe arm system, sync cord

Mares/Dacor — 3 Dacor Metalcore 5mm full wetsuits, sizes S, M, L

Divers Market, Inc. — Zeagle 50D Regulator with ZX second stage

ADDITIONAL PRIZES for Diver Raffle

Aqua Center — Gift certificate

Aquatic Escapes — Manta Mini Reel, Manta High Sea's Lift Bag, 100lb. Lift

Fred Calhouns Easy Diver Charter — 1-2 tank charter dive

Captain Rob's Dive Charter — 1-2 tank charter dive

Cressi-Sub — Horizon Mask, Alto 1 Snorkel, Pro Lite Dive Fins

Divers Alert Network — DAN Diver Down Flag, DAN Embroidered Back Pack, DAN Pocket Guide to Hazardous Marine Life, DAN Pocket Guide to First Aid, 2 DAN T-Shirts, 15 DAN Insulated Cup Holders, 15 DAN Water Bottles, 15 DAN Luggage Belts, 10 DAN Frisbees

Drysuit Hanger Company — Drysuit Hanger w/accessory hanger

Dutch Springs — 5 individual diver admissions

Helix Camera & Video — 4 Books, Bahama Diver's Guide, Florida Keys Diver's Guide, Cayman

Diver's Guide, Red Sea Diver's Guide

Manta Industries — Spring Fin Straps

Andrew Martinez, UW Photographer — Book, Marine Life of The North Atlantic, 4 Posters, New

England Marine Life New England Aquarium Dive Club — 1 Year membership to

NEAQ and Dive Club

Ocean Management Systems (OMS) — 4 Surface Marker Buoys w/ 55lb lift, S-BT Bottom Timer

Oceanic — Tour APS BCD with Crotch strap

PrincetonTec Lighting — 2 Shockwave dive lights, blue and yellow

Scubapro — Weight pouch belt, Shotgun 2 Snorkel, Crystal View Dive Mask, Wetsuit Shortie,

Twin Jet Fins

Sherwood/Genesis — Sherwood Magnum EX Mask, Sherwood Edge Snorkel, Genesis Panview

Mask, Genesis Mojave Snorkel

Underwater Photo-Tech — Gift certificate

ADDITIONAL DONATIONS

Bread & Circus (Wholefoods) — Drinks, juice, bars and assorted food items

Roche Brothers Supermarkets — Food gift certificate

Fish ID Program Update

During the first 2.5 years of the sanctuary's Fish ID Program, we have provided 28 training workshops to 627 individuals. The demographics break down as follows:

383 Divers

38 Marine Science and Oceanography College Students

89 Marine Science High School Students (MA Marine Educators Science Symposium)

79 Middle School Students (with a

local Marine Science curriculum)

38 Middle, High School and College teachers and professors

As of January 2004, northeast fish survey information filed on the REEF database includes:

652 surveys

495 hours of volunteer bottom time

73 species of fish observed.

The Top 10 most frequent fish sightings are:

1. Cunner
2. Winter Flounder
3. Striped Bass
4. Sea Raven
5. Pollock
6. Rock Gunnel
7. Winter Skate
8. Shorthorn Sculpin
9. Atlantic Cod
10. Grubby Sculpin

Introducing Invertebrate Identification

The American Museum of Natural History has reported that "one of the greatest challenges facing the conservation community today lies in identifying, managing and conserving invertebrate biodiversity." In an effort to aid that effort, the sanctuary has initiated an invertebrate identification program for divers — an education program that just may become a major tool for the scientific community. In training dozens of divers to recognize local native as well as exotic (invasive) species, the program is putting an informed cadre of spotters in the water to provide an early warning network on species of critical interest. Scientists from several institutions, including MIT Sea Grant and Boston University, are helping with the effort. Look for "Stellwagen Soundings," the sanctuary's summer publication, for more information about this program. For more information about the sanctuary's education and outreach programs, contact education coordinator Anne Smrcina, 781-545-8026 x204. For information about upcoming invertebrate ID classes, contact Bob Michelson, the fish and invertebrate ID coordinator, at 781-848-8870.

Tourism Books Feature Sanctuary

Cape Cod area tourism publications are providing generous support to the sanctuary this summer, with donations of space for feature stories and listings in attractions sections. The Cape Cod Chamber of Commerce gave the sanctuary four pages in its 2004 Official Cape Cod Guide (circulation 400,000) for a feature story on the resources of this special marine area. They also featured the sanctuary on the back cover of their 8-page newspaper supplement, which went into every copy of the Boston Globe and Worcester Telegram on April 14th (an estimated 1.5 million readers). Kids on the Cape, another free travel publication on Cape Cod (circulation 250,000), will run a sanctuary feature story in each of its four 2004 issues.

Sanctuary Adds Staff

The sanctuary welcomed two new staff members over the past year. Just Moller joined the team in November as our GIS Research Analyst. Just has a master's in environmental planning from Harvard University's Graduate School of Design and has worked for 10 years as a consultant in conservation planning. His expertise in Geographic Information Systems allows him to use this mapping tool to help analyze data collected in sanctuary research projects and provide important support products for the on-going management plan review process. Dorine Westgate is the most recent addition to the sanctuary staff, and is our administrative specialist. Dorine's arrival in April after 24 years of government procurement experience, including 17 years with the National Marine Fisheries Service, gives the sanctuary a contracting specialist with critically important expertise in NOAA procedures and knowledge of key personnel.

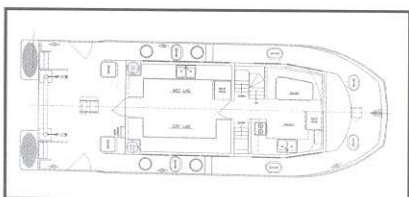
Quick Clips

The Boston Museum of Science is using the sanctuary's steamship *Portland* imagery to help illustrate an exhibit on the history and evolution of weather forecasting.

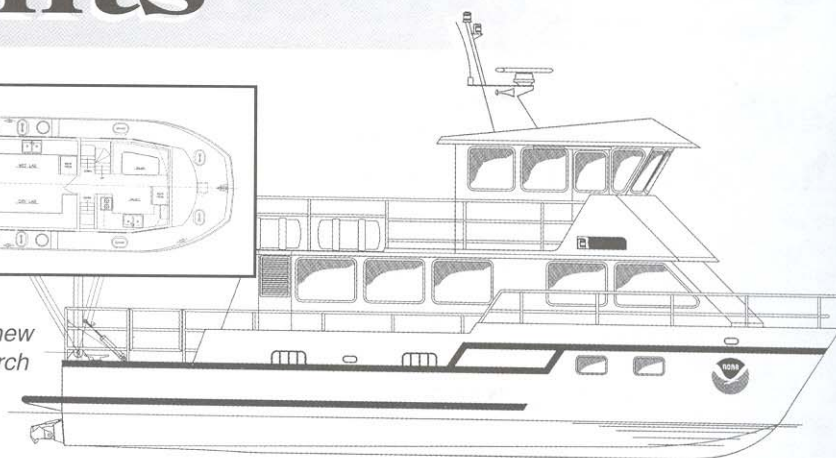
The Portland Harbor Museum has recently opened a new exhibit on "Shipwrecks" that includes sanctuary-supplied images of the *Portland*.

The New England Aquarium held a highly praised high school student ocean summit on the management of the Stellwagen Bank National Marine Sanctuary in November 2003. A similar program co-sponsored with the sanctuary will be offered this fall.

The sanctuary has developed a temporary exhibit for The Gloucester Maritime Heritage Center's 2004 season. Exhibit panels focus on seafloor mapping, sanctuary habitats, humpback whales, marine fishes and maritime heritage. A touch screen unit on shipwrecks will be added later in the summer.



Plans of the new 48-foot research vessel.



Sanctuary Fleet Changes as Needs Grow

29 to 41 to 48. It's not a locker combination but the evolution of the sanctuary's research fleet.

The 29-foot Research Vessel (R/V) *Hawk*, a workhorse serving the sanctuary for nine years, was retired from government service last year. But this sturdy vessel has not been left high and dry — it continues to ply coastal waters, finding a new home at Elizabeth City State University (ECSU) in North Carolina. As its permanent replacement, the sanctuary has developed plans for a new 48-foot catamaran with capacity for 8 passengers, 3,000 pounds of equipment, and a cruising speed of 22 knots.

Designs and funding for this larger boat (its name is still unresolved) were approved this year, and the sanctuary is now in the process of contracting for such a vessel. But building a boat from scratch takes time, and delivery may not occur for another two years. For the interim period, the sanctuary has acquired a 41-foot former US Coast Guard utility boat, which most recently provided an enforcement role at the Florida Keys National Marine Sanctuary. The R/V *Sentinel*, with a detour for refitting in Norfolk, VA, should arrive at the Stellwagen Bank Sanctuary in late May. Providing backup to the R/V *Sentinel* will be the R/V *Gannet*, a 28-foot vessel that was formerly used for research at the Center for Coastal Studies in Provincetown. The *Gannet* was acquired by the sanctuary last year.

In a special ceremony in Elizabeth City, NC on April 14th, the National Oceanic and Atmospheric Administration (NOAA) officially transferred the R/V *Hawk* to ECSU through



R/V Hawk

the Educational Partnership Program with Minority Serving Institutions.

ECSU students and investigators will use the R/V *Hawk* to conduct habitat mapping, monitoring and restoration research in the coastal and estuarine waters of northeastern North Carolina and southeastern Virginia. The vessel will also support algal and fish population studies in the Pasquotank and Albemarle Sounds. Students who use the R/V *Hawk* will be trained in the use of Global Positioning Systems, Geographic Information Systems, and remote sensing tools for coastal habitat protection, enhancement, and restoration.

As plans were being made for the R/V *Hawk* transfer, the National Marine Sanctuary Program was simultaneously acquiring designs for a range of research vessels to meet various site needs. The mid-size 48-foot vessel ideally fit the all-around needs at SBNMS.

Ben Cowie-Haskell, the sanctuary's operations and programs coordinator, has been heading up the site's fleet management project. He outlines a variety of mission needs for a sanctuary research vessel, including research, emergency response, enforcement, and education/outreach.

"Most of these missions require a fast, stable platform that maximizes useable deck area and has good seakeeping capability," noted Ben. The catamaran design was chosen over a monohull because it better met those important needs. "Stability is critical to our operations to ensure that quality data is gathered and to reduce the risk of seasickness with our passengers and guests," he added.

Twin jet drives will power the vessel, providing greater level of safety for marine mammals than traditional propellers. The new vessel will also have berthing for six individuals, a galley area equipped with stove and refrigerator for all-day and overnight cruises, wet and dry labs for equipment and samples, a flying bridge for better marine mammal observation capabilities, and a deck area with appropriate winches, A-frame and dive ladders for various mission tasks.

Currents



"Exploring the Deep Boulder Reefs" is the newest poster offering from the sanctuary. Painted by science illustrator Mary Jane Brush with technical support from the National Undersea Research Center and its science director Peter Auster, the picture shows representative life on a boulder reef in the sanctuary as a remotely operated vehicle flies by. Copies of the poster can be obtained by visiting one of the sanctuary's distribution centers, including: the SBNMS Provincetown Exhibit at Aquarium Wharf, the New England Aquarium Teacher Resource Center, the Woods Hole Aquarium, and the sanctuary office in Scituate.

Students Build Underwater Robots for Annual Competition

Ten teams of New England students faced off at the University of Rhode Island pool on May 8th — not in a swimming meet but at the annual ROV Competition. ROV is the acronym for remotely operated vehicle — in other words, underwater robot. The final standings showed Milton Academy (Mass.) in first place, with Falmouth Academy (Mass.), Cambridge Rindge and Latin (Mass.), and South Kingstown H.S. (R.I.) in a tight battle for second through fourth.

At the Stellwagen Bank National Marine Sanctuary, ROVs are used for a variety of research and monitoring tasks, including sediment and biological sampling, videography, and still photography. These robots go to areas too deep and dangerous for SCUBA diving and too hazardous or costly for manned submersibles.

For the students participating in this year's regional ROV competition, the program provided many parallels to real-life ROV operations. The theme of the event, organized nationally by the Marine Advanced Technology Education (MATE) Center and co-sponsored by the Marine Technology Society and the National Marine Sanctuary Program, was "Mystery Reef." The students were asked to develop a functional ROV that could complete seven specific science and recovery mission tasks at the "reef" and simulated sunken U-boat at the site.

In addition to building the ROV and completing the in-water mission, the student teams had to produce a technical report and poster that detailed the ROV development process, provide a vehicle schematic and wiring diagram, and describe the team members. Chief poster judge was Anne Smrcina, the sanctuary's education coordinator.

The top two New England teams have been invited to participate in the National ROV Design and Building Competition for High School and College Students being held this year at the University of California, Santa Barbara from June 25 to 27. The sanctuary will also offer the winning team an opportunity to participate in an ROV science cruise as guest observers.

For more information on the ROV Competition visit the MATE ROV website at http://www.marinetech.org/rov_competition/national_rov_comp_2004.php.

See page 8 for an ROV teacher training workshop notice.

Hardy Birders See (and Count) Winter Seabirds

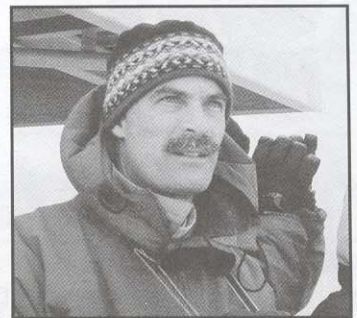
The Annual Christmas Bird Count Reaches the Sanctuary

After several years of inclement weather and cancelled trips, the National Christmas Bird Count included a Stellwagen Bank component in its 2003 tally. On December 20th, bright and early on a sunny but chilly morning, 45 hardy souls boarded the New England Aquarium whalewatch vessel. The program was sponsored by the Massachusetts Audubon Society and co-sponsored by the sanctuary.

The well-bundled passengers were soon treated to an excellent display of avian species diversity. Simon Perkins, a senior scientist from Mass. Audubon, provided a running commentary on the sightings, with tips on distinguishing between similar-looking species. The count was the first since 1999 — the intervening three years' trips were cancelled due to stormy winter weather and dangerous sea conditions.

Although Christmas Bird Counts have been occurring around the world for over 100 years, the Stellwagen Bank count has a much shorter history. Over these past 16 years, Mass. Audubon has delineated a 15-mile circle that includes the southern end of the bank and a portion of the northern tip of Cape Cod. The zone allows for landslide counts on days when a vessel cannot be used (as happened in 2000, 2001, and 2002) yet includes areas over Stellwagen Bank and adjacent deeper waters. The counts from the vessel are added to the shore-side components and sent on the master database at the Audubon Society.

To view information in the Christmas Bird Count database, you should go to the web page located at http://audubon.bird-source.org/CBCOutput/year_select.html? (then select the year you would like to search — the 104 years of bird count data are indexed by count number rather than year, e.g. CBC 103 is the 2002 count). Once you get to the



Simon Perkins, a marine seabird expert from the Massachusetts Audubon Society, led the Stellwagen Bank Christmas Bird Count on December 20th. The sanctuary is a co-sponsor of the event with Mass Audubon.

right year, then select a region (Massachusetts). The CBC circle for Stellwagen Bank is noted as such in the pull down menu and also abbreviated as "MASB" in the master list. At the time of the writing of this newsletter, the 2003 data had not yet been posted to the CBC website database.

In addition to seeing over 2,000 birds, the "counters" also spotted one minke whale and one finback whale.

Birds Spotted during the 2003 Christmas Bird Count at Stellwagen Bank

circle with 7 mile radius around map location Lat. 42.09N and Long. 070 14W

Red-throated Loon	.....2
Common Loon	.....171
Red-necked grebe	.....2
Northern Gannet	.....373
Great Cormorant	.....11
Common Eider	.....226
Oldsquaw	.....23
Black Scoter	.....7
White-winged scoter	.....27
Red-breasted Merganser	.25
Pomarine Jaeger	.....1
Bonaparte's Gull	.....3
Ring-billed Gull	.....3
Herring Gull	.....240
Iceland Gull	.....2
Glaucous Gull	.....2
Great Black-backed Gull	275
Black-legged Kittiwake	.342
Dovekie	.....5
Common Murre	.....7
Razorbill	.....207
Black Guillemot	.....1
Start of Count:	0830 hours
End of Count:	1400 hours
Wind:	W-NW 10-15 mph
Temperature:	30-36 degrees F

CALENDAR

May 2004 thru August 2004

May

- 8 New England ROV Competition at University of Rhode Island, 9am-5pm
- 28 Opening reception at Gloucester Maritime Heritage Center

June

- 6-13 Massachusetts Biodiversity Days
- 8 World Ocean Day
- 8 Sanctuary Advisory Council meeting, 9am to 5pm - Sheraton Colonial Hotel Wakefield, MA
- 8 Fish ID workshop at Metro West Dive Club, 7pm
- 12 "Portland" Science Channel video screening sponsored by SBNMS and Gloucester Maritime Heritage Center at Cape Ann Historical Society, 4pm
- 14-19 Shipwreck Survey cruise with the NOAA Ship *Nancy Foster*
- 16 Fish ID workshop at New England Aquarium Dive Club, 7pm
- 21-26 Seafloor Habitat Recovery cruise with the NOAA Ship *Nancy Foster*

July

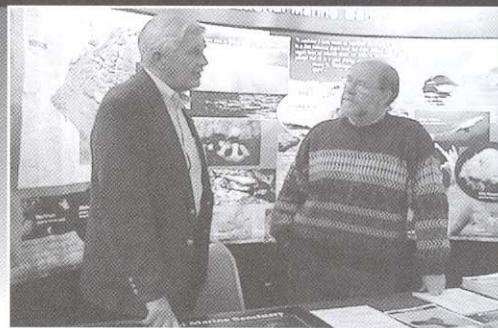
- 6-17 Whale Behavior research cruise with the NOAA Ship *Nancy Foster*
- 17 Sanctuary Celebration & Great Annual Fish Count at Stage Fort Park, Gloucester, 10am-4pm
- 17-22 Aquanaut cruise by National Undersea Research Center-UConn
- 23-24 Seafloor Habitat Recovery research cruise with the R/V *Connecticut*

August

- 9-12 SCUBA mission to the schooner *Paul Palmer* wreck for photo mosaic project
- 13 "Exploring the Portland & other shipwrecks in SBNMS" at Centerville Historical Society
- 14-19 Seafloor Habitat Recovery research cruise with the R/V *Connecticut*



A major cold spell this winter produced a frozen harbor and an ice-locked boathouse. Sanctuary staff recently inspected the underwater pilings, now that temperatures have finally warmed a bit, and have found no damage from the rough conditions. Sanctuary and Massachusetts Environmental Police staff will be using the finger piers and boathouse to stage summer on-the-water operations.



Bill Adler, executive director of the Massachusetts Lobstermen's Association (left), stopped by the SBNMS booth at the annual MLA Winter Conference where he met with sanctuary superintendent Craig MacDonald. The sanctuary's busy outreach schedule includes attendance at various user group conferences to explain sanctuary research and the on-going management plan review process. The sanctuary exhibit and staff will also travel to the biennial FishExpo show in Providence, RI in the fall.

**Save This Date:
July 17th**

The 3rd Annual Sanctuary Celebration in Gloucester (in conjunction with the Great Annual Fish Count) will be held July 17th at Stage Fort Park

The Stellwagen Bank National Marine Sanctuary is planning a free two-day Teacher Workshop on ROV Design and Construction this fall in cooperation with the New England Chapter of the Marine Technology Society and the Massachusetts Marine Educators. Contact Anne Smrcina for more details at 781-545-8026 ext. 204 or e-mail her at anne.smrcina@noaa.gov.

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